

descending with a rapid sweep and beat of the wings to within a few feet of the ground, then rising again and repeating the movement, at the same time making a curious, loud, vibratory, rushing noise, which I once heard as late as midnight on a still moonlight night. The cock birds on the ground almost incessantly utter a loud "chuck, chuck." The hen birds are pretty silent and quiet, merely rising with the usual sharp "quirk."

I find a great difference in the size of the females, those that are laying being much larger than those that are not.

GALLINULA ANGULATA, Sundeval. Natal Gallinule. (*G. pumila*, No. 58, *Ibis*, 1859, p. 249, pl. vii. ; *Ibis*, 1867, p. 254.)

Male. Iris dark red ; bill greenish-yellow, ridge and frontal shield bright scarlet ; tarsi and feet pale yellowish on the outer surfaces.

This species is numerous in the Transvaal, and breeds in the swamps and valleys and also among the high reeds and rushes on the banks of the Movi River ; but I have not yet succeeded in finding a nest of these birds, owing to the inaccessible character of the boggy ground which they frequent.

IV.—*Ornithological Notes from Amoy*. By ROBERT SWINHOE,
Her Majesty's Consul, F.Z.S. &c.

[Continued from 'The Ibis' for 1867, page 413.]

OUR Consulate is situated on a hill overlooking the fine bay which constitutes the outer harbour of Amoy ; and on the evening of July 17th, the day after a heavy gale from the south-east, I strolled into the verandah as the sun was just setting. A strange large bird was soaring over the flagstaff. It seemed to be black, with a white head and belly, and had a long, forked tail and very long wings. In the grace of its flight it surpassed any Kite, and yet it seemed uncouth and unnatural. There was a Gull-like something about its appearance which bespoke its connexion with the sea. To me the sight was a novelty ; but I guessed what the stranger was, and, mad with excitement, I seized my gun and rushed into the green in front of the house. The bird stood motionless in the air, at such a height

that in size it looked no bigger than a small Kite. Its wings did not quiver, but it closed and expanded its tail, and, with side twists of this natural rudder and slight turns of its wings, it sailed in large easy circles, rising to a greater height and gradually descending on an incline to rise again and sail another circle. Again it would stand in air, and drawing forward its wing-bends to its head, and the quills to the body, with closed tail, dart or shoot obliquely downwards, checking its fall with a sudden expansion of the wings, to sail in the same calm manner again *. It showed, however, no inclination to lower itself from its exalted position; and for fear of losing it I tried a long shot with loose No. 4. Its wing was touched and it looked troubled and shook itself, but soon again recovered. I tried the other barrel, but without the least effect. In despair I rushed back to the house, rammed home a green cartridge, and speedily returned to my position at the foot of the flagstaff. The bird seemed to be making off; but, to my delight, it presently took a long sweep, and, as if fearless of my humble efforts, sailed over the house. Now or never was my chance, I felt, and with a forlorn hope I took steady aim and fired. The bird staggered and fell; its right wing was broken, but its pluck not; it flapped the left vehemently, and bit frantically at the wound on the right, which caused the extremity of that wing to dangle useless, notwithstanding the efforts of the fractured stump to keep it sustained. Still fighting, still struggling, the unfortunate wanderer reeled downwards in narrow circles, amidst the shouts of the Chinese in view, till it reached the earth with a thump. We rushed to pick it up, and found that it had vomited two fish, each about four inches long, one of them well known to the servants as occurring in the market. The bird lay on its side, and courageously showed fight with beak and claws. I had it placed on the tiled floor of the verandah; it attempted to walk, but only tumbled about. The smooth surface did not suit its short toes and pointed claws. It dropped on one side, keeping one leg suspended, which quivered incessantly from nervousness.

* I have seen Kites perform this darting movement, but much more clumsily.

As I had supposed, the stranger proved to be a Frigate-bird, but from its small size and bluish bill certainly not *Tachypetes aquilus* (L.). Its eyes were uniform blackish or deep hazel-brown, bright, but not over sharp. The stupid look of the bill detracted from the knowingness of the eye. It snapped with a double clatter of the mandibles, like an Albatros, and uttered, when touched, a continued hoarse and angry cry. It flapped about to the danger of destroying its quills against the hard tiles; and was wild, cross, and bad-tempered. I put it out of pain, and was surprised to find how immediately it died on compressing the ribs against the heart, which is by no means the case with most sea-birds.

Bill from forehead 3·4 in., from gape to tip of lower mandible 4 inches; total length 28 inches. Tail of twelve feathers 12·75 in., depth of fork 5·7. Wing 20·5, its tip when closed all but reaching that of the tail. Expanse 69 inches. The bare throat-skin extends from the feathers on the base of the lower mandible down the breast 2·75 in. Breadth between *crura* of lower mandible at base ·583 in. Breadth of bill across forehead 1·1 in. Depth at base ·8. The occipital angle of the eye is just behind the line of the rictus, its axis inclined about 25° towards the mouth, its diameter nearly ·5 in. Bill french-grey, with whitish yellow-tinged *dertrum* tipped with blackish. The tongue is a short irregular triangle, about ·5 in. long by ·32, blunt at the tip. Inside of mouth bluish-grey. The rugose throat-skin bluish-grey, tinged with a little pink. Eyelids and bare skin just above them light bluish-grey tinged with yellow. Ear well behind the eye, a little above the level of the rictus, about ·22 in. wide.

Head, neck, and upper part of the breast white, blotched with burnt-sienna red, more deeply on the latter. A band from the axillaries across the belly, and extending behind the legs, pure white. Mantle brown, sprinkled with blackish feathers, showing immaturity. Lesser wing-coverts and a few tertials brown, blackish in the middle, and broadly edged with white in some, and whity-brown in others. The down on the basal half of the feathers white. General plumage deep brownish-black. Feet light flesh-colour, tinged along the toes with grey. Middle claw

long and falcated, inwardly convex and broadly pectinated; claws flesh-colour, with more or less blackish-brown. Interdigital webs pale yellowish flesh-colour, more than half indented, that between the inner and hind toes being little more than a border.

Arm of wing 7 inches, forearm 8·8 in. From shoulder-joint to shoulder-joint across the back 4·65. From humero-ulnar joint across the back to the same joint of the other side 6·75 in. First toe 1·5 in., its claw ·2 in. (measured to the end of the sole-pads); middle toe 1·85 in., claw ·6 in.; inner toe 1·2 in., its claw ·25; hind toe ·75, its claw ·27 in.

The plumage was covered with numerous lice of at least three species. There were two diminutive species, one white and the other red, very lively, and, I think, *Ricini*. The largest was a thin black species (about ·2 in. long) of, I think, *Lipeurus*.

Dissection.—Eggs undeveloped and minute in ovary. Trachea narrow with short bronchi. The former terminates in a peak in front, a semicircular, narrow, fleshy cushion forming the edge on either side, from which each bronchus springs, and from which it is separated by a membrane. Rings of bronchi much narrower than those of trachea. Sterno-tracheal muscles given off from each side of trachea about ·25 in. above the before-mentioned cushion. Rings of trachea broad and irregular. Peak behind inclining up to join peak in front. Bronchi merely membrane behind. Right lobe of liver rather larger than left, and about ·25 in. longer. Gall-bladder ·7 by ·3 in. under right lobe of liver to the upper right of gizzard. On the upper side of the membrane that separates the upper air-reservoir of the left lungs from the lower, occurred numerous small *Ascarides*, as also on the downward side of the same membrane; the longest *Ascaris* about 1 inch in length by ·05 in. at the most, pointed at both ends, and pure ochreous. I took them off the membrane alive; but they soon died. Proventriculus 1·5 in. long, gradually expanding from the broad œsophagus till it joins the gizzard. Gizzard of an irregular heart-shape, 1·1 in. at greatest breadth, and 1·5 in. long, flabby, with small lateral tendons. Pylorus on right side of gizzard, about ·4 in. from its junction with proventriculus. Intestine about 28 inches long, from ·2 to ·45 in. thick, and banded with dark ruddy veins. Stomach lined with an adnate,

slimy, soft epithelium, which runs also into the proventriculus—or rather a true epithelium is absent. It contained half-digested remains of fish in the stomach, as well as throughout the proventriculus and the greater part of œsophagus, many *Ascarides* like small *Lumbrici*, about 1·5 inch long by ·1 in. at thickest, pointed at both ends, whity-brown, marked in some with lines of deep brown, probably the food showing through the skin. They were very lively, and lived an entire day and night in cold water. When placed on the table they moved by drawing head and tail together, and so making small leaps. They seemed to have no retractile power. I have sent my specimens of both these worms to Dr. Cobbold, and I trust therefore that their names may be added to this paper*.

From its small size this bird would appear to be *Tachypetes minor* (Gm.), and from the bluish bill, as figured in the plate representing the species in the ‘Genera of Birds,’ I should think it very probable that ours is the same. That plate, however, gives the tip of the bill and the throat yellow, and a bare skin round the eye. These may all be assumed by the species in its progress to maturity. I suppose the example there figured is not quite mature, as it possesses the white ventral band. As regards the drawing, I would notice that the eye is not correct. The eye of this species, like that of *Diomedea*, shows no distinct pupil. Authors, I see, compare it to that of an Eagle, but, I suppose, on the grounds of fancy and sentiment. The only description of the Lesser Frigate-bird that I have at hand is that contained in Bonaparte’s ‘Conspectus’ (vol. ii. p. 109), wherein it is curtly diagnosed as coming from Australia, and being like *T. aquilus* “*sed valde minor*,”—from which it would appear that Bonaparte had never seen the smaller species; for he speaks of the larger one as “*nigro-coracinus; rostro, gula, pedibusque rubris*.” The adult he further characterizes as “*unicolor, splendens; plumis capitis*

* [In answer to our application, Dr. Cobbold has been kind enough to write:—“Mr. Swinhoe sends me two kinds of Nematode parasites. Those from the œsophagus are examples of *Ascaris spiculigera*, a common Entozoon, already found by Natterer in a Frigate-bird taken off the coast of Brazil; but the others are apparently referable to a new species of *Strongylus*. At present I have not had time to examine them minutely.”—Ed.]

dorsique lanceolatis”; and the young as “*albo vel rufo varius; plumis capitis dorsique minus elongatis.*” We must hence infer that the adult of both sexes is whole-coloured—that is to say, without white head or belly-band, and that both have the beak, throat, and feet red. Dr. Jerdon tells us (B. Ind. iii. p. 853) of the large species having been once shot off the coast of Malabar. His diagnosis looks as if were copied in part from Bonaparte. It runs, “adult, entirely glossy black; young bird with the head, neck, and lower abdomen white, the rest of the body glossy black. Length 37 inches; wing 26; tail $15\frac{1}{2}$. Bill and feet red.”

Mr. Salvin, in his notes on the Sea-birds of British Honduras (Ibis, 1864, p. 375), tells us that he “shot four old [Frigate-] birds; two adult males in dark metallic chocolate-brown plumage, and two with white underneath, the adult females; no white-headed immature birds were to be seen.”

Edward Burton, in a memoir on *Pelecanus aquilus* in the Linnean ‘Transactions’ (vol. xiii. pp. 1–11), informs us that its “predominating colour is black; but the back of the male is inclined to a glossy-green, similar to that of the common black cock. The plumage of the female is more dusky; and she differs from the male in having the abdomen and nearly the whole of the head white. The eye and parts immediately surrounding it are black. The beak is of a dirty-yellowish white. The feet of the male are black; those of the female, of a bluish white.

If the same species is meant in these extracts, here is a glorious amount of irreconcilable confusion! The Amoy specimen was a female, and must have been a bird of the preceding year, though it bore unmistakeable signs of immaturity. It is not unlikely that the females of this group, as of many others among birds, wear this immature plumage much longer than the males, but eventually acquire the adult plumage which one hastily considers peculiar to the males. I wonder if Burton identified his sexes by dissection; for he states that the male bird sits, and that none but males were taken on shore at Ascension Island, while the females were shot at sea—all his females having white heads. Mr. Salvin says that in the breeding-places he explored off British Honduras he saw no white-headed birds, which he

sets down as immature; all that he saw were whole-coloured, the females having the white belly-band. There may, however, be little use in introducing this question, as it may have been satisfactorily settled long ago, which, through want of references I have no means of ascertaining. About the stated differences in the colour of the bill and feet of this species I am troubled. Burton's adult birds in the breeding-season had dirty yellowish-white bills with red gular pouches, and dark feet. Now it is impossible to suppose that the bill and feet at any other season of the year could change to red. Two distinct species must be indicated by these very distinct characters. It is likely enough that this has already been noted, and that one of these forms constitutes the new species of Mr. Gould, to which Bonaparte in his 'Conspectus' also refers*. Mr. Salvin does not state the colour of the bill and legs of his Honduras species; but is it possible that the same species could be described by one man as "*nigro coracinus, splendens*," and by another as "dark metallic chocolate-brown"? The Honduras bird may be yet another species! With the opportunities that Mr. Salvin had, I wonder that he did not give us a study of this wonderful genus, which has been the subject of so many fables, especially in France. These remarks, however, may be behind date. I could add, in conclusion, that there is a great difference in the position of the wings in the live bird from what obtains in skins and drawings. In skins the *humerus* is generally removed, and, the *ulna* being drawn inwards, the carpal joint is thrown forwards towards the head, and the wings lie flat to the sides, their tips not extending to the middle of the tail. All the drawings that I have seen reproduce this unnatural appearance. In our live bird the elbow stood well out, giving considerable convexity to the wing, the carpal joint was not carried beyond the shoulder, and the tips of the wing lay crossed over the tail and extended to within one third of an inch of the tail-tip.

New to the Amoy list, on the 13th April I had brought to me a *Limosa melanura* in partial summer plumage. Its bill was slightly rugose near the tip; claw of the middle toe long, curved,

* [It appears that Mr. Gould has not yet felt sufficient confidence in this supposed third species of Frigate-bird to describe it.—ED.]

and pectinated. At the end of May I bought from a Chinese a male *Eudynamis orientalis*, the first I have seen procured here; I put it into my aviary, but it did not live many days. It had the habit of flying about, up and down, and round and round, in a light and graceful manner, like a Drongo. A few immature pen-like quills still remained on the wings. On dissection I found it to be a male.

June 11.—I examined some nearly fledged young of *Halcyon smyrnensis* (L.). Eyelid pale reddish-ochre or buff. Iris deep umber-brown. Bill deep brown over a reddish-ochre ground, which shows through, especially on the under mandible; tip fine orange for about .2 in. Inside of mouth light orange-ochre. Legs and toes deep madder-brown, orange-buff on the back of the tarsal joint, the underside of the tarsi and the soles of the toes more reddish and sullied. Claws blackish-brown, with pale tips. Head of deeper hue than in the adult. White feathers of the breast narrowly margined with black. I have reared two or three of these noisy fellows on a diet of raw meat, and have still one showy specimen in my aviary.

I mentioned in one of my former papers (Ibis, 1866, p. 298) that a *Porphyrio* had occurred at Amoy, and was living in the aviary of a friend while I was in Formosa. One was brought to me on the 29th July alive. Such a noble stately fellow, and so tame! He stalks about, knee-deep, in my fountain, frequently twitching up his tail, and scratching, with his head immersed in the water, for food. He snatches at a piece of flesh or an insect, and, holding it in one foot, while he stands on the other, he devours it piecemeal. The Chinese bird would appear to be only a race of the *P. smaragdinus*, Temm., of the Indian Archipelago, differing in having its belly purple instead of grey, and in having a black abdomen. I will name it provisionally

PORPHYRIO CÆLESTIS, sp. nov.

Its measurements I have not taken satisfactorily, and will therefore omit. The black of its upper parts has a show of purple in some lights, of olive in others. Its head is dusky grey. Its hindneck, sides of neck, flanks, and belly fine blue-purple. Throat, down to breast, turquoise-blue, a patch of which

also occurs near the shoulder-joint. Rump white. Bill, casque, and legs brick-red, more or less marked with brown on bill. The eyes are crimson and projecting.

The bird is unknown to the Amoy Chinese that I have questioned about it. It is probably to this species that the Abbé David, at Peking, refers, in a letter to me, as being found to the south-west of the capital. He writes "on me parle d'un gallinacé tout bleu à queue courte."

I have never heard of any of the *Columbæ* eating insects. It may therefore also be new to others to know that the other day, on throwing a large live cockroach into my aviary, two Manilla Doves (*Calænas cruenta*) attacked it at once, pulled it to pieces, ate many bits of it, and probably would have eaten the whole, but that other birds robbed them of the remainder.

I received a letter from the Abbé David on the 25th June, enclosing two bird-skins. The Abbé writes:—"Je profite de l'obligeance de M. Conolly pour vous envoyer deux peaux d'oiseaux; c'est tout ce que j'ai maintenant de disponible. Votre *Pomatorhinus stridulus* est fort abondant et sédentaire dans nos montagnes, de même l'autre oiseau que je vous envoie et dont je vous prierais de me faire savoir le nom. Ce dernier habite les mêmes localités que le *Pomatorhinus* et en a les mêmes habitudes."

These two birds were quite distinct from anything Chinese that I had seen before, and I wrote to the worthy priest for permission to describe them. M. David's permission, dated Peking, 31 July, 1867, I received on the 4th Sept. The so-called *Pomatorhinus* belongs, in my opinion, to the *Timaliine*. At a first glance you might pronounce it to be a plain-coloured *Pomatorhinus*; but on second inspection you notice its feathered and bristled nostrils. Hence what should it be a member of but a new genus? which I would propose to style

PTERORHINUS, gen. nov.

Bill curved, compressed at culmen and expanding at sides, narrowing very gradually to the tip, which is obtuse and without notch. *Nostrils* thickly covered with feathers and vibrissæ. *Wings* short, rounded; fifth, sixth, and seventh quills longest. *Tail* of twelve feathers, moderately long, and the four outer

rectrices graduated. *Legs* somewhat slender for the Timaliine group, with moderate feet and claws: tarse-scale divided.

The type of this genus, in the shape of the bill, approaches *Pomatorhinus*; in the clothing of its nostrils it is an exaggerated *Garrulax*; in the sober uniformity of its coloration it resembles *Malacocercus*, and in the comparative slenderness of its legs and feet exceeds *Leucodipterum*. I should like to name the species, in honour of its discoverer,

PTERORHINUS DAVIDI, sp. nov.

General plumage umber-brown; the downy or basal half of each feather bluish-grey. A short superciliary mark of brownish-white passes over the eye, and some of the frontal feathers are edged with the same colour. Cheeks and under neck pale; tibia, abdomen, and under tail-coverts deep umber; a ring on the tarsal edge of tibial feathers whitish. Chin black, giving out divergent black *vibrissæ*; near the symphysis of the lower mandible a few small whitish feathers occur; and below the black chin-spot the feathers of the throat are inclined to whitish-grey. Quills brown, edged with greyish-white. Tail umber-brown on the two middle feathers, deepening towards their tips, where faint cross bars appear; the other rectrices blackish-brown. Bill (in the dried specimen) pale ochraceous-yellow, brownish on the upper mandible except at its edges. Legs and claws (of the same specimen) liver-brown. On the ticket was inscribed in pencil "12 April, 1867; Pekin. ♀ adult. Iris clear brown."

Length of skin 9·2 in.; wing 3·3 in.; tail 4·7 in. The first wing-quill falls short of the longest by 1·25, the second by ·7, the third by ·3 in. Outer tail-feather 1·4 in. shorter than the longest. Tarse 1·2 in.

The second novelty from Pekin belongs to the *Drymacinae*, and seems to occupy a place close to *Suya*, from which, however, it differs in having *twelve* rectrices instead of *ten*. I do not know to what restricted genus to refer it, and will therefore, for the present, place it under *Drymaca* in its broad sense. The occurrence of one of this group so far north is so worthy of note that I propose to name this bird

DRYMÆCA (?) *PEKINENSIS*, sp. nov.

Nostrils apart, semilunate, partly covered by a rounded scale. Bill moderately strong, notched near the tip, with strong bristles on either side, and slighter curved ones on the chin and throat. Wings small, rounded, and graduated. Tail long, of twelve feathers, the outermost somewhat short, the rest much less graduated. Tarse-scale divided; feet moderate, with short pointed claws, hind one largest and most hooked.

Upper parts olive-grey; feathers on crown, back, and rump broadly marked in the middle with black, and tinged with rusty-maroon; those of sides of neck grey, spotted with rusty. Supercilium pale; cheeks brownish, with an indistinct black moustache-streak below the ear-patch. Quills light brown, edged with whitish, the two middle tail-feathers olive-grey, brown near the shafts, and edged with whitish; rest of rectrices blackish brown, margined with olive-grey, edged externally with white, the outermost tail-feather being white at the tip and on its apical outer edge, and the shafts of all white beneath. Under parts dingy white, streaked on the sides of breast and flanks with rusty-maroon, the same colour washing the sides of the abdomen and the tibiae, and slightly tinging the belly and vent. Axillaries rusty-white; the underwing washed with the same.

Bill (of dried skin) light brown, light ochreous on the basal half of lower mandible. Legs light brownish-ochre, browner on feet and claws. Label-ticket:—"7th April, 1867; Pekin. ♀. Iris yellowish-grey."

Length of skin 6·5 in.; wing 2·4; fifth, sixth, and seventh quills equal and longest; first quill ·9, second ·4, third ·2, and fourth ·08 shorter than the longest. Tail narrow, 3·3 in., outer feather ·75 in. shorter than the longest. Tarse ·7 in.

In the third week of August my hunter returned from the Tingchow mountains—the high "Black-Tea range"—about 120 miles north-east from Amoy. I was delighted to find in his collection a genuine *Dendrocitta sinensis*, which he shot on the road, returning. Wing 5·7; tail 6·75. This bird, by the downiness of its throat and abdominal feathers, is evidently only a bird of the year. Its tail has not acquired the adult length and form, and the rich black and grey of the head have not made

their appearance. We cannot, therefore, minutely compare, it is true, this *D. sinensis* with the Formosan bird. One difference, however, is conspicuous. The white wing-spot is small, and only visible on the third to the eighth quills, while in the Formosan bird it is *much* larger, and extends from the third to the tenth quills. According to Mr. Blyth, the Himalayan form has even more white on the wing than the Formosan (Ibis, 1865, p. 45), and the latter in this respect is therefore intermediate between the Chinese and Indian,—which does not accord with their relative geographical habitats. I have unfortunately no immature specimens from Formosa by me; but I feel pretty sure that the white wing-spot does not enlarge with maturity.

The hunter had also a male *Dicaeum cruentatum*, a not fully fledged specimen of *Iaxus chrysorrhoides* (showing the crissum chestnut-buff instead of crimson), and three females and one male of *Brachypternus fokiensis* (P. Z. S. 1863, p. 87). One female of the last has the head and neck a pale reddish cream-colour, the feathers marked with blackish-brown and chestnut in the middle. This appears to be the fresh-moulted condition of those parts, which soon get dingy and stained darker.

There were some adult and some immature examples of our common Titmouse, which in form oscillates between *Parus cinereus* and *P. minor*. It is objectionable to require a sentence each time a bird is mentioned: for convenience, then, I would propose to call it

PARUS COMMIXTUS.

The chief difference between *P. cinereus* of the Straits and *P. minor* of Japan appears to be the colour of the back. The back of *P. commixtus*, in the adult, shows a compromise between the two, sometimes leaning a little more to one side than to the other. My object in bringing forward the species now is to note the great difference of the immature form, of which good specimens have reached me from Tingchow. In this the cheeks and under parts are light yellow, instead of white, showing a direct affinity to the typical *P. major* of Europe. The stripe, extending from the chin to the middle only of the belly, is light

dull greenish-black. The crown of the head is of the same dull colour. The nuchal spot, the tips to the greater wing-coverts, and the edgings to the tertiaries are washed with greenish-yellow. The mantle is dull olive-green, as also are the margins of the secondaries. The rest of the plumage is lighter and duller than in the adult. To show that I am not wrong in regarding this as the young of *P. commixtus*, I have a specimen acquiring the adult plumage, in which the yellow of the under parts is giving place to the greyish-white. The glossy blue-black breast-band and mesial stripe are beginning to show. The bluish-grey of the rump, and the livelier green of the back, together with other distinguishing marks, are showing through, and confirm the identity. The young birds referred to were shot while in company with the adult of *P. commixtus*. It is only for convenience, as I have said before, that I propose to admit *P. commixtus* as a species. When I get a series from various points in China and Japan, as I hope to do, I shall probably have something more to say on the subject.

Perhaps the most interesting of all I received from Tingchow was a species of Long-tailed Titmouse of the semitropical form *Ægithaliscus*. Most of the specimens were unfortunately in moult and imperfect.

ÆGITHALISCUS ANOPHRYS, sp. nov.

Closely allied to *Æ. erythrocephalus* of the Himalayas, but differing from Dr. Jerdon's description of that bird (B. Ind. ii. p. 271) in having no white superciliary stripe, and the breast and belly, below the black throat-spot, pure white with a broad deep-chestnut breast-band and chestnut down the flanks, paler on the sides of the abdomen and browner on the tibiæ, tipped with white on the vent.

Length (of skin) 3·5 in.; wing 1·8 in.; tail 1·8 in.

The full-grown young has the whole of the under parts white, with a tinge of ochreous-yellow on the breast and belly; the crown brownish-grey instead of brick-dust red; the upper parts dingy-grey. The quills are brown, washed with olive, and edged with yellowish-olive. Except for the downy state of many of its

feathers it might well be taken for a distinct species. I have, however, two partially moulted, showing the change from the immature into the adult.

The Tingchow mountains seem to promise a truly golden harvest. As soon as the moulting-season is past I will send to ransack them again.

Amoy, 18th September, 1867.

V.—*Observations on the Egg-beds of Æpyornis*.

By ALFRED GRANDIDIER*.

THE attention of the Academy has been called, on several occasions, by M. Isidore Geoffroy Saint-Hilaire, to a gigantic bird, whose existence had been revealed to him by some eggs of colossal size, and by some fragments of broken bones, sent from the southern part of Madagascar.

It did not then seem impossible to the learned Academician that this bird, to which he gave the name of *Æpyornis*, still lived in the unknown countries of the south of the island; most scientific men have shared his opinion. The latest researches destroy all hope in this respect.

The immense extent comprised between the sea, latitude 20° S., and longitude 44° 30' E. [of Paris], which had hitherto remained unexplored, is a vast arid plateau, of the height of 142 *mètres*, interrupted here and there by clumps of stunted

* [We have to offer our best thanks to M. Grandidier for a copy of this paper, "Observations sur le gisement des œufs de l'*Æpyornis*," communicated to the Academy of Sciences of Paris, and printed in the 'Comptes Rendus' for the past year (vol. lxx. pp. 476-478), as well as to Mr. G. Dawson Rowley for a translation of the same, he having obtained the author's permission to publish it in our pages. So far as we are aware, this paper is the first that has been written on the subject by any one personally acquainted with Madagascar; and hence the knowledge we have possessed respecting the geological formation and the kind of country in which the remains of *Æpyornis maximus* have been found has hitherto been extremely imperfect. M. Grandidier has recently returned to Madagascar to renew his researches there; and we trust that even greater success will attend his future than he has already met with in his past investigations. —ED.]